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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,177	10/20/2003	Chuong Vu	200312863-1	3929
22879	7590	06/10/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			GUERRERO, MARIA F	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,177

Applicant(s)

VU ET AL

Examiner

Maria Guerrero

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the Election filed March 24, 2005.

Status of Claims

2. Claims 1-22 are pending.

Information Disclosure Statement

3. The information disclosure statement filed October 20, 2003 has been considered.

Election/Restrictions

4. Applicant's election with traverse of Group I (claims 13-18) in the reply filed on March 24, 2005 is acknowledged. The traversal is on the ground(s) that the Restriction Requirement mischaracterized the relationship between the two sets of claims as process of making and product made. This is not found persuasive because the group I also included the independent claim 8 that recites an electronic circuit board assembly. Regarding claims 1 and 13, the product can be used on material different method. For example, to deposit a material in a semiconductor substrate having trenches. In addition, the inventions are distinct because they have acquired a separate status in the art as shown by their different classification.

The requirement is still deemed proper and is therefore made FINAL.

5. Claims 1-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on March 24, 2005.

Specification

6. The abstract of the disclosure is objected to because it is not in the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 13-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoebeneer et al. (US 5,492,266).

Hoebeneer et al. teaches coupling a circuit board assembly (inherently includes the via) and electronic components (Abstract, col. 1, lines 7-20, col. 2, lines 45-65). Hoebeneer et al. discloses disposing a joining material mask (Fig. 8). Hoebeneer et al. shows with a stencil depositing a joining material (solder) on the circuit board in a pattern that comprises an out-gassing channel forming "X" shape in the joining material (Fig. 8-9, col. 2, lines 45-67, col. 4, lines 1-10, col. 5, lines 22-60). Hoebeneer et al. describes placing the electronic component in contact with the joining material, heating the joining material and cooling the circuit board assembly (Fig. 13, col. 5, lines 65-67, col. 6, lines col. 6, lines 1-67). Hoebeneer et al. shows the component pad and the component pad comprising a ground pad is considered to be implicit (Fig. 12, see other publications in the front page).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McCormick et al. (US 6,580,174), MacKay et al. (US 6,609,652), Schaper (US 5,410,107), Fjelstad et al. (US 5,632,631), Torigian et al. (US 6,623,283), Bresin et al. (US 5,420,377), Biunno et al. (US 6,282,782) and McMillan, II et al. (US 5,842,275) are cited as evidence to show that the step of depositing joining material in a pattern that comprises an out-gassing channel is well known in the art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 3, 2005

Maria F. Guerrero
MARIA F. GUERRERO
PRIMARY EXAMINER